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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,141	07/31/2000	Noriaki Yukawa	P19826	4629
7055	7590	01/15/2004		
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191				
EXAMINER CHAWAN, SHEELA C				
ART UNIT		PAPER NUMBER		
2625				

DATE MAILED: 01/15/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

BEST AVAILABLE COPY**Office Action Summary**

Application No.

09/629,141

Applicant(s)

YUKAWA ET AL.

Examiner

Sheela C Chawan

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on Oct 1, 2003 (paper # 4/a) have been entered.

Response to Arguments

Applicant's arguments with respect to independent claims 1 and 7 have been considered but are moot in view of the new ground(s) of rejection necessitated by the applicant's amendment .

3. Claim 4 is canceled .

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103 and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5-12, are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsumune et al. (US.5,717,780) in view of Hiroi et al. (US.6,347,150).

As per claims 1 and 7, Mitsumune discloses a method of erasing repeated patterns in a dark/light image obtained by image pickup of a subject of inspection, when identifying defects present in a repeated pattern in the subject of inspection (abstract, column 2, lines 40- 54) , comprising :

detecting a reference pixel in the obtained image (fig 11, item n8, column 1, lines 42- 65, column 2, lines 40- 67, column 6, lines 6- 20, column 7, lines 36- 44);

Mitsumune discloses checking apparatus for flat type display panels. Mitsumune is silent about specific details of assigning a comparison pixel at a predetermined distance from the reference pixel, the distance being determined in accordance with the pattern pitch of the repeated patterns in the dark/light image ;obtaining a plurality of density difference to determine a specific density difference ; determining a density difference that is closest to 0 as a specific density difference; applying said specific density difference to a reference density of the image, thereby erasing the repeated patterns in the dark/light image.

Hiroi discloses a method and system for inspecting a pattern. The system comprises of :

assigning a comparison pixel at a predetermined distance from the reference pixel (fig 3, item 101 notice point is reference pixel , column 6, 1- 51), the distance

Art Unit: 2625

being determined in accordance with the pattern pitch of the repeated patterns in the dark/light image (column 6, lines 1- 51, column 9, lines 25- 67, column 10, lines 1- 12), obtaining a plurality of density difference to determine a specific density difference (column 13, lines 1- 7, 19 –67);

determining a density difference that is closest to 0 as a specific density difference (column 9, lines 25- 67, column 10, lines 1- 12) ;

applying said specific density difference to a reference density of the image, thereby erasing the repeated patterns in the dark/light image (column 12, lines 1-20, 63- 67, column 13, lines 1-7) . Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Mitsumune to include a predetermined distance from the reference pixel, the distance being determined in accordance with the pattern pitch of the repeated patterns in the dark/light image . It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Mitsumune by the teaching of Hiroi in order to exclude any false defects to detect a true defect (column 2, lines 42- 54).

As per claims 2 and 8, Mitsumune discloses the method of erasing repeated patterns in a dark/light image wherein the subject of inspection is a liquid crystal array panel (column 1, lines 9-16) .

As per claims 3 and 9, Mitsumune discloses the method of erasing repeated patterns in a dark/light image wherein the subject of inspection is a plasma display panel (column 1, lines 9-16) .

Art Unit: 2625

As per claim 4, Mitsumune discloses the method of erasing repeated patterns in a dark/light image wherein in the step of demarcating the obtained image into a plurality of areas, the plurality of areas have a size of a predetermined number of pixels obtained in accordance with the pattern pitch of the repeated patterns in the dark/light image (column 6, lines 37- 60).

As per claims 5 and 10, Hiroi discloses the method of erasing repeated patterns in a dark/light image wherein in the step of determining the specific density difference that is closed to 0 as the specific density difference (column 6, lines 1- 51, column 9, lines 25- 67, column 10, lines 1- 12, column 13, lines 1- 7, 19 –67), a mean value of the plurality of density differences between the reference pixel and the comparison pixels is determined as the specific density difference (column 12 , lines 1- 62) .

As per claim 6, Mitsumune discloses a method of manufacturing electronic equipment devices at least including liquid crystal panels, plasma display panels, and semiconductor wafers, including an inspection process that is performed with the method of erasing repeated patterns (column 1, lines 9-16) .

As per claims 11 and 12, Hiroi discloses the pattern defect inspection device wherein the distance between the comparison pixel and the reference pixel is an integral multiple of the pattern pitch of the repeated patterns (column 1, lines 15- 42, column 5, lines 56-67, column 6, lines 1 – 51).

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP, 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

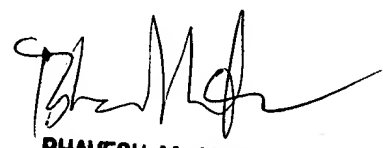
Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela C Chawan whose telephone number is 703-305- 4876. The examiner can normally be reached on Monday through Thursday 7.30 a.m. to 6.00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on (703) 308 - 5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.


Sheela Chawan
Patent Examiner
Group Art Unit 2625
Dec 29, 2003


BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
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